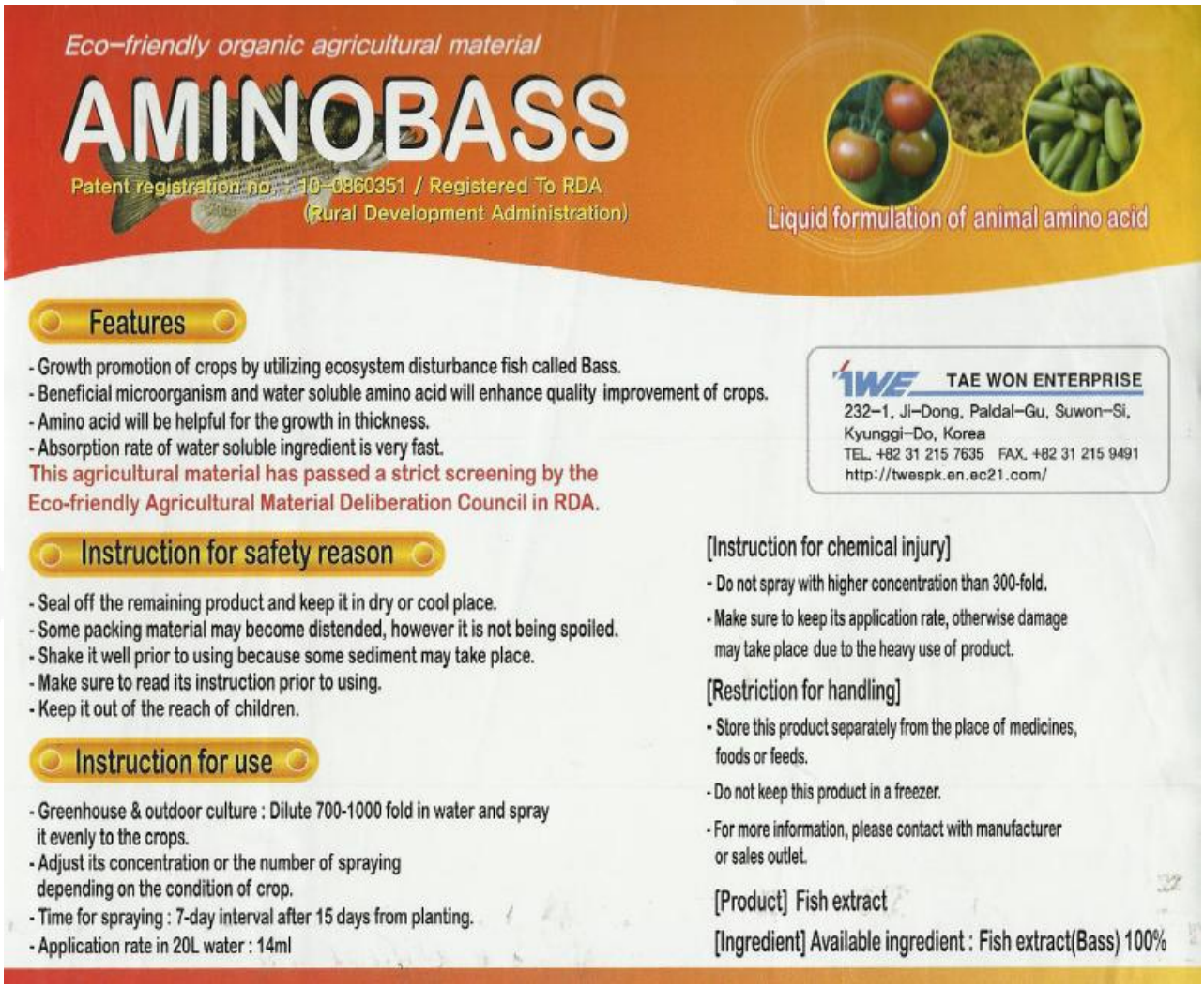
Tae Won Enterprise
Discription of AminoBass

Factory : Agricultuer and Industry 1146, Wonchon Ri, Hanam Myun, Hwachon Gun, Kangwon DO, Korea
Address: 22-9, Seji-Ro, 331beon-gil, Paldal-Gu, Suwon-Si. Gyeonggi-Do, Korea 16243 E-mail: twe0511w@netsgo.com
Tel : +82 31 215 7635 Fax : +82 31 215 9491
C.P : +82 10 3715 9455

AminoBass



ENVIRONMENTALLY FRIENDLY ORGANIC MATERIAL

Characteristics of the Products

1. Environmentally friendly organic material made of “Bass” which is destructing ecosystem under the water.

2. Using only the organic natural material, therefore, safe from antibiotics and heavy metals

3. The bass contains much minerals such as calcium, phosphorus and zinc, which is good material for fermentation, In addition, the bass contains low fat and has less possibility for rancidity.

4. Fast acting products and being absorbed directly into crops as it has water-soluble nutrients and already been disassembled by microorganisms.
   No need to worry for soil residual after spraying as it is water soluble.

5. By poliar application of the leaves, the amino acid immediately absorbed into leaves and help the growth of crops. It also assist improving the quality of crops and increase sweetness of fruit.

6. It assist crops to recover from stress as it is rich in beneficial microorganisms to facilitate the activation of plant disease resistance, and prevention of physiological disorder.

7. It attributes to make leaves thicker and contribute greater resistance to illness, flood and wind damage.

8. The amino acid in the product, and organic acid being produced during the manufacturing process, will increase the activity of the physiology of crops

Increase of fruits (Tomato)

	Compare Sample	Diluted by 500times	Diluted by 700times	Diluted by 1,000times
No. of Fruit	28.8	35.95	37.95	36.35
Average(%)	100	124.8	131.8	126.2

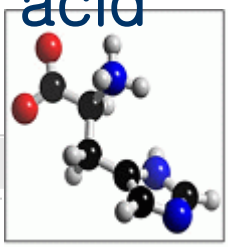
Increase in leaf area of lettuce

	Compare Sample	Liquid Fertilizer Treated/diluted by 500times	Liquid Fertilizer Treated /diluted by 700times	Liquid Fertilizer Treated /diluted by 1000times
Area	13041.88	15028.81	15985.76	15369.01
Average(%)	100	115.2	122.6	117.8

Increase the weight of leaves

	Compare Sample	Liquid Fertilizer Treated/diluted by 500times	Liquid Fertilizer Treated/diluted by 700times	Liquid Fertilizer Treated/diluted by 1000times
Weight	5.43	7.66	7.60	7.01
Average(%)	100	141	133.9	129

The reason why crops need amino acid



1. The amino acids of microbial degradation enzymes have all the nutritional ingredients evenly. Amino acid bulky produced by acid or alkali will broken its structure and decrease the rate of essential amino acid such as histidine, phenylalanine, tyrosine, tryptophan, and proline.
   In addition, in case of the vegetable amino acid, the content ratio does not fit well as it is the residue after extracting taste agent amino acid. The animal amino acid decomposed by microorganism contains 18 kinds of essential amino acids evenly.
2. Improve Cultivation of Crops. The process of making amino acid from the nitrogen absorbed by roots is skipped, and the energy saved from this process omission will be used as the growth and fruiting. Amino acid will be absorbed from the foliar application of fertilizer, and will be delivered to long distance quickly.

3. To be used as natural trace elements. Amino acid will embrace various trace elements and minerals in natural way and being absorbed. And its delivering speed is much faster than that of chelate-chemical treated trace element fertilizers.

4. Natural pH adjuster. Amino acids does not produce dramatic acid-base reaction . When fertilizing, it does not give stress on crops, thus advantageous both for the management of soil and crops.

Individual Effect of Amino acid

The effect of Amino Acid	Relevant Amino Acid
Rooting, growth promoting	Lysine, Leucine, Glutamine, Serine
Enhancement of sweetness and acidity	Aspartic acid, Glutamine, Alanine, Glycine, Serine, Histidine, Threonine
Increase the flavor of fruits	Valine, Leucine, Arginine
Improve fruit color	Leucine, Alanine, Isoleucine
Pathogen inhibition, antibacterial	Leucine, Glutamine, Phenylalanine, Arginine
Prevent stress, help the formation of pulp	Proline, Methionine
The material containing sulfur promotes protein synthesis and wound healing	Methionine, Cystine,
Strengthen the immune system, promote disease resistance	Tyrosine

The Effect of Organic Acid to the Crops and Soil

1. The organic acid eliminates the accumulated salts. Various organic acids will make the residual nutrients in the soil into water-soluble state. Particularly, phosphate salt accumulation will be cleared to some degree by organic acids alone.

2. Helps the absorption of beneficial trace elements and prevent harmful trace elements and stress. It helps rapid absortpion as it act as natural chelate agent for zinc and iron, but activates protective effect to the aluminum that accumulated in the soil and prevent root descending of crops.

3. Helps crops to spread roots to ground. It activates the microorganisms symbiotic with roots of crops. The activated soil microbials will secrete growth hormones such as auxin and cytokinin, and will help root colonization and fine roots formation.

4. Prevent damages from disease. Many papers produced in late 2000s tell that organic acid have the effect of preventing eggplant, tomato, and etc. from fusarium wilt, , pythium and other diseases. Acetic acid is known to partly prevent mildew from spreading roots.

5. Prevent the formation of aflatoxin which is know to be a food poisoning of crops. Various organic acids greatly hiders the growth of fungi that produce aflatoxin.

6. Relieve stress and lack of oxygen for wet rice.
   The organic acid such as malic acid, formic acid, and acetic acid greatly alleviate the stress of wet rice from the lack of oxygen.

7. Maximize the nutrient transfer efficiency when worked with amino acid
   It shows rapid effect of absorbing not only amino acid but also trace elements when works with the amino acid of natural chelate.

How to use the product and Precautions

Based on the area of0.5a

Classification		Dilution Rate	Quantity Applied(Ltr.)	Spraying Cycle
Fruits & Vegetables	Growing seedling	1,000	0.5	7-10days
	The main paddy irrigation	500-700	1~0.7	7-10days
	The main paddy foliage dressing	500	1	7-10days
	After fruiting season	500	1	5-7days
Leafy Vegetables	Growing seedling	1,000	0.5	7-10days
	The main paddy irrigation	500-700	1~0.7	7-10days
	The main paddy foliage dressing	500	1	7-10days
	After fruiting season	500	1	5-7days
Rootcrops	Growing seedling	1,000	0.5	7-10days
	The main paddy irrigation	500	1	7-10days
	After fruiting season	500	1	5-7days

*Cautions

1) Do not keep in frozen storage
In case of keeping in frozen storage, the number of microorganisms contained will be significantly reduced.

2) However, the water-soluble components such as amino acid will not be affected.

3) Do not eat. (This product is not edible.)

4) The expiration date is two years from the date of manufacture (room temperature storage)

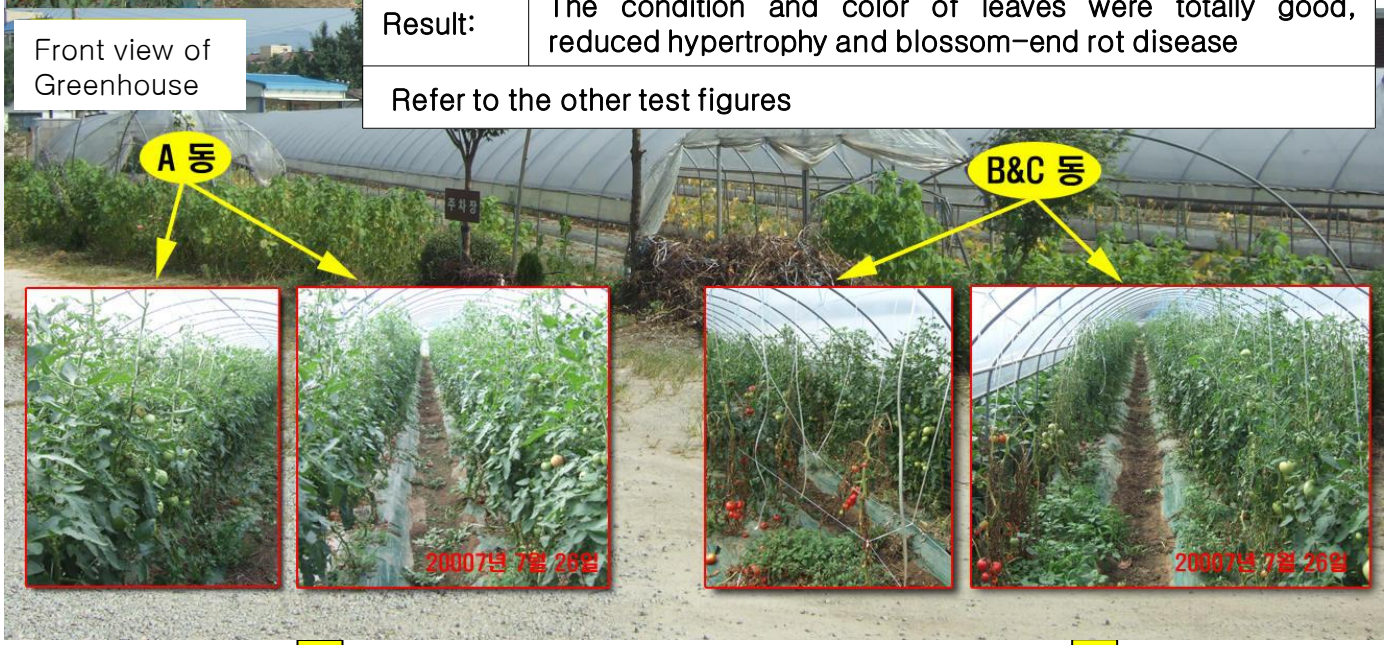
5) Especially for fruits and vegetables, dilution rate to be accurately respected (The fruits of thinner skin such as tomato, may cause a heat fever damage.)

Ingredient analysis table, National Institute of Fisheries Science, Year 1995

Description	Per 100g edible portion								
	Energy (kcal)	Protein (g)	Fat (g)	carbohydrates		Ash (g)	Minerals		
				Carbohydrates (g)	Fiber (g)		Ca. (mg)	P. (mg)	Fe. (mg)
Flatfish(Flounder)	98	20.4	1.7	0.3	0	1.3	53	199	1.6
Mackerel	174	20.2	10.4	0	0	1.3	26	232	1.6
Sebastes hubbi	94	16.3	2.0	2.7	0	2.2	56	154	4.1
Masou salmon	111	20.3	3.3	0.1	0	1.7	21	253	2.0
Trout	120	21.1	3.9	0.1	0	1.6	33	246	1.8
Crucian carp	89	18.1	1.8	0.1	0	1.1	56	193	2.4
Bluegill	79	17.8	0.8	0.2	0	1.2	36	226	1.4
Catfish	109	15.1	5.3	0.1	0	1.1	26	190	0.8
Mandarin fish	106	17.2	4.1	0	0	1.1	71	202	2.1
Eel	213	14.4	17.1	0.3	0	1.1	157	193	1.6
Pollock	76	17.5	0.7	0	0	1.5	109	202	1.5
Squid	90	19.5	1.3	0	0	1.7	25	273	0.5
Carp	107	17.5	4.0	0.3	0	1.3	50	225	1.4
Leather Carp	169	16.8	11.2	0.3	0	1.2	37	197	1.2
Bass	82	18.2	0.4	0.1	0	1.2	88	245	4.5

Test Report

Subject: A Test case of Tomato greenhouse located in Shin-dong, Chuncheon-shi.	
Purpose1	A comparison test between regular greenhouse and the Aminobass applied greenhouse. Transplanted in early April 2007 and applied Aminobass for 2 months' period in every 10days' interval
Result	Some of the early growth-promoting effect, growth of crops in good condition
Characte ristics	Test Field B&C: Verticillium wilt disease happened since early June at the . In the fruiting period of early August, disease happened and withered. Test Field A: Regular growth and harvest without the verticillium wilt powder mildew disease (In early August, verticillium wilt happened at 3 plants)
Purpose2	Bass liquid fertilizer applying test during July & August, which period is tomato fruit growing period
Result:	The condition and color of leaves were totally good, reduced hypertrophy and blossom-end rot disease
Refer to the other test figures	



A

B

Greenhouse on Restaurent MunBae, indong, Chunchun City

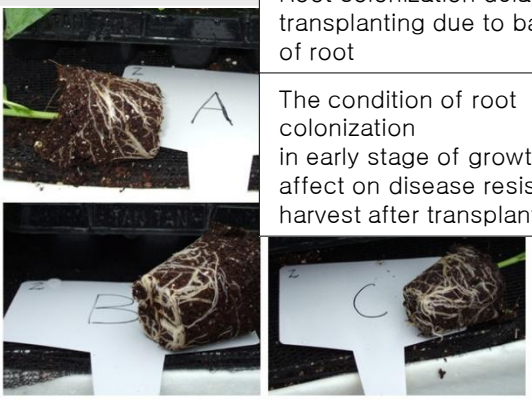
Root colonization experiments on green peppers Hul-ri, Gosung-kun, Kangwon do

Experiments using AminoBass for the root growth-promoting effect

Root colonization delayed after transplanting due to bad growth of root

The condition of root colonization
in early stage of growth greatly affect on disease resistance and harvest after transplant of crops.

Root colonization experiments; Greenhouse A



Root colonization experiments; Greenhouse B

Front view of Greenhouse

The condition of fine root and root colonization significantly improved by using AminoBass

Test bed A: The status as of Jun. 9, 2007

Test bed B: The statusas of Jun. 9, 2007

Oct. 23, 2007: Test report on cabbage comparison by Mr. Cheong wok, Choi at Gunrang-ri, Yanggu-gun, Gangwon-do

30% increase of cabbage harvest compared to the cabbage harvested in 2006
by Mr. Cheong wok, Choi at Gunrang-ri, Yanggu-gun, Gangwon-do

Powder mildew, treated field and untreated field (Gyungki-do Gapyeong, organic cucumber, raised by Mr. Tae Hwan, Park) Treated in August 24, 2011

5 day after untreated

5 days after treated by diluted 500 times

After transplant of cabbages, treated field and untreated field (Kyungki-do Gapyeong, organic cabbage, raised by Mr. Yong Sup, Pyon) Treated in August 24, 2011

5 day after untreated

5 days after treated by diluted 500 times

Applied to the strawberry roots and tomato nutrient solution (Gapyeong, Bubu farm)
Treated in August 24, 2011

5 day after untreated

15 days after treated by diluted 500 times

Root colonization was said to be 10days faster compared to untreated farms

High-yielding was reported even at the lack of sunshine

Mr. Chanyong, Kim (cabbage), Anpyeongri Hanammyeon Whacheongun Gangwon-do

Mr. Unsik, Gil (watermelon), Oheumri, gandongmyon, Gangwon-do

Mr. Kwangseop, Gil (Sweet Pumpkin) Gyeseongri Hanammyeon Gangwon-do

Mr. Chongsu, Oh (Wha.ac mountain tomatoes) Gwangdeokri Sanaemyon Whacheongun Gangwon-do

Mr. Kim, ungsu (Blueberry) Garden of Chea-Hyang

Assment of the farms used for crops

-Yonghori, Mr. Seungwoo Baek: Cherry peppers and green peppers, which was in regular condition. In spite of the temperature disturbances, two days after treatment, failure disappeared and harvested 30% more.

- Sinpungri, Ms. Seunghwi, Lee: Aminobass drenched in pumpkins, Harvested 20% more pumpkins compared to previous years. Merchantable quality has been much enhanced owing to reduced deformity.

- Yonghori, Mr. Myeongsu, Kim: Peppers. Applied compost and Aminobass only. Peppers were more fresh and pepper yield increase than previous years. Grow stronger against various plant diseases.

- Gancheokri, Ms. Siwha, Kim: Irrigation experiment by appling Tomato with a mixture of Aminobass and fermented broth. Fruits get bigger and sweetness increased. No powdery mildew occurrence in the rainy season.

Antifungal experiments, Gangwon Provincial Laboratory of Flower and Tree

At conventional culture, fungal pollution occurred at 4cases out of 25 total experiment case.

Applied Aminobass to conventional culture

Applied only the Aminobass

*Researcher's comment:
The survival rate in the process of domestication of plants defers depending on the status of plants growth, but in accordance with the present experimental results of the treatment Bass extracts, fungus development was highly inhibited.

Treated 500 times diluted solution to withering cabbages;
One week later, new sprout shoot out and outgrow against old leaves

Periodically treated plantations

Plantation of conventional culturing

At the farmers festivals in Gapyeong, Gyungki-do exhibited excellent crop of radish,

Chinese cabbage

and clean & deform free cucumber